E/CONF.39/B/43
25 Oct.1962
ORIGINAL : ENGLISH

UNITED NATIONS CONFERENCE
ON THE APPLICATION OF SCIENCE AND TECHNOLOGY
FOR THE BENEFIT OF THE LESS DEVELOPED AREAS

Agenda Item : B

India

THE HUMAN FACTOR IN ECONOMIC GROWTH : AN INTRODUCTORY EXERCISE WITH SPECIAL REFERENCE TO INDIA

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THE HUMAN FACTOR IN ECONOMIC GROWTH - AN INTRODUCTORY EXERCISE WITH SPECIAL REFERENCE TO INDIA.

1. Recent studies in the economics of growth have shown that capital accumulation is only one among the factors that determine the pace and magnitude of economic development. Innovation, technology, the state of knowledge, these are as important as machinery and equipment, even though it must be admitted that these factors sooner or later get themselves expressed in terms of capital accumulation. But these are so closely related to the human factor that a whole new field of study has grown up aimed at explaining their growth and indicating the action that should be taken on the human factor in order to bring about induced variations in these determinants of economic growth. The growth of science and technology as also their application for the benefit of the less developed areas constitute only one aspect, albeit an important one, of the subject of the human factor in economic development. International studies of economic growth have also shown that many other factors, all of which get their unity only by the fact that they function through their effect on the quality and intensity of human effort, play an important part in determining the extent and pace at which natural resources get translated into the annual flows of goods and services that constitute the national income. Thus, institutions, legislation, traditions, education, organisation, motivation, communication - all these have become the subject of attention and analysis to the economists who are interested in unravelling the mysteries of economic growth and formulating programmes for speeding up the economic development of underdeveloped countries. The human factor in economic growth has thus become a major subject of study in the economics of development.

2. Obviously, the most important determinant of production, ceterus paribus, is the number of workers or the quantum of the labour force. The labour theory of value has pointedly brought to the forefront the relation between numbers and output, while the Marxian allergy to population control and family planning is an extreme illustration of the importance attached to the size of the labour force in determining the size of the national dividend. It is also well known that a part of the explanation of the recent German and Japanese economic miracles lies in the large supplies of additional

labour force they were able to get for participation in economic activity during the post-war period, the West Germans through disarmament and influx of repatriates from ceded territories and refugees from East Germany, and the Japanese through disarmament and repatriates from ceded colonies and spheres of influence. The stagnation theses evolved in the United States in the immediate post-war period is another example of the importance attached to a growing population and a growing labour force for ensuring a growing economy. Thus, the experience of developed economies shows the importance of what may be called the quantitative aspect of the human factor in determining the rate of economic growth. On this count, under-developed countries such as India with their huge populations and vast resources of labour power should have been advantageously placed in the race for economic development. And yet, population and numbers present a handicap rather than an aid to a country like India in her attempt to speed up the rate of economic growth. That the size of the labour force should be a limiting factor in the economics of growth of the developed economies while it functions as a handicap in the case of the underdeveloped economies is a paradox that stares the economist of the underdeveloped countries in the face and is now leading him to ask more questions about the economics of the human factor. When the Indian planner refers pathetically to the fact that while the national income went up by 42% during ten years of planned development the per capita income went up by only 16% because of the growth of the population, he is obviously implying that the resulting increase in the labour force has not been accompanied by a sufficient increase in the contribution of labour to national output. When he goes in for projections of per capita income and links it up with a diminished rate of population growth, he is obviously making the assumption that a smaller rate of increase in the labour force would be accompanied by a higher degree of productivity per unit of labour. To the Indian planner, increase in numbers thus represents an increase in the magnitude of unemployment rather than an increase in the resources available for increasing output. Obviously something more is needed if numbers are to yield their dividend in terms of increase in output, and this additional something seems to be absent or at best woefully deficient in an underdeveloped economy like India, while it seems to be present or at least sufficiently so in the developed economies like those of the U.S.A. or West Germany or Japan to give them a high rate of current economic growth. It is also becoming evident that this something more is not just capital. It is also all the other things that in their totality affect human efficiency and increase labour productivity. It is the study of these other things that constitute the subject of the human factor in economic growth. And it goes without saying that, considering the paucity of capital in these countries, the limitations that exist on

foreign aid, and the urgency of speeding up the rate of growth, a study of the human factor in the context of economic development becomes imperative for all those who are interested in the welfare of the underdeveloped countries.

3. The efficiency of the human factor in the production process rests upon the following features:

(a) Physical
(b) Mental
(c) Psychological
(d) Organisational

To deal with the problem of improving human efficiency and thus promoting economic growth, the planner has not only to study all these factors but also the problem of ensuring balances between the demand and supply of different kinds of labour skills and preventing both bottlenecks and unemployment emerging in the course of economic development. What follows is just an introductory exercise intended to illustrate the nature of the study rather than an attempt at examining the current role of the human factor in the economic development of any one specified country.

4. To begin with, efficiency of the human factor depends upon the physical fitness of the human being. A labourer or a clerk or even an intellectual who is underfed cannot put in his best effort with the result that his productivity is low. This prevents a rise in his income and therefore in his food consumption, and in turn, it keeps his productivity low and so the vicious circle continues of inadequate diet and low efficiency. The same thing is true of his immunity from disease, his housing, state of sanitation and drainage, and the other physical conditions under which he lives as well as those under which he works. It is true that all this is a part of the phenomenon of under-development and can improve only as a result of development. But it is also true that one way of speeding up development - and a way which simultaneously tackles both the means and ends of economic growth - is to take whatever action is possible on the physical front and minimise, if not eliminate, the conditions which prevent the human being from physically being able to put in his best effort. It is in t is context that proposals for the use of surplus food in promoting local projects gets a part of its economic significance. Developed countries which have practically solved their food problem and do not normally have hunger as a noticeable phenomenon in their midst are not fully aware of what an important role hunger or other elementary deficiencies in the physical basis of living play in keeping human efficiency low in the under-developed countries. The under-developed countries themselves

do not have more than a general knowledge of the state of physical conditions relevant to efficiency by reference to different classes of workers and different industries and occupations among their peoples. In the absence of such knowledge, the policies followed are general, have no priorities or economic logic, and tend to become purely consumption-oriented in their effects instead of having a productive bias. It is suggested that more use should be made of the role of basic necessities in improving human efficiency. These include not only the quantity and quality of the diet but also health and physical conditions of work. One way of dealing with the problem of diet is the setting up of canteens in factories where well-balanced and subsidised food is made available to the worker at attractive prices. Malaria eradication programmes not only reduce mortality but also reduce the man-years of labour that are lost through sickness and improve the quality of the labour which is at work; similarly adequate supplies of drinking water, as also other measures of public health. Fencing of machinery, ensuring of proper ventilation, reduction in noise and smoke, provision of baths, all these add to the efficiency of labour and increase the output that is traceable to the human factor. Good housing and provision of creches for children also help to increase efficiency. The important point to note is that more and better food, good housing, eradication of disease, and provision of public health facilities and satisfactory physical conditions of work are not only the end product of efficiency but also the determinant of efficiency. Expenditure on the provision of these facilities will therefore be productive and should be treated as investment rather than as mere consumption. While no detailed or specific studies have been made on this subject in India, it is clear from the general evidence that is available that health, diet, and physical conditions of work do constitute a positive element for bringing about an increase in the efficiency of the human factor.

5. The second set of factors that influence efficiency can broadly be described as the state of skills. Physical fitness is not enough. Skilled labour is not only more efficient but also becoming a necessary condition of economic growth in view of the development of science and technology in its application to practically all economic activity. Skills in turn are determined by education and training. It is not enough merely to recognise the importance of education, leaving it to the so-called professional educator to determine the various constituents of the supply of education. Education has a very important role in economic development and it is necessary to get a clear and detailed idea of the relation of education to the development of manual, technical, scientific, professional, and other work skills in the economy, if we are to embark on a planned programme for improving the efficiency of the human factor.

6. Because of the assumption that, from the economic point of view, the relevant object of education is the imparting of skills, it must not be inferred that all education has to be scientific or technical or professional or vocational. Even if education is to be only skill-oriented, it has to be recognised that there is a broad base of general education including literacy and language that is common and is a pre-condition to the acquiring of skills. Moreover, what economic development requires is not merely specific skills but also general skills in the sense of a reasonable measure of coordinated development of mind and body, industrial discipline, and capacity for receiving communication. It is also necessary to provide for a degree of mobility as between different skills and the capacity for readaptation and re-training from one skill to another. No amount of planning can provide for a perfect balancing of demands and supplies and it is of the very nature of growth that flexibility and accommodation to change is required on the part of the human factor to the changing tempo and content of economic development. Under the circumstances, very careful attention needs to be paid to the relation of general and special education, the duration and content of the pre-specialised education or training, the relation between different kinds of specialised education or training, and the kind of built-in and/or specific programmes that can ensure adaptability of the labour force to the changing requirements of economic dynamism. All this means a rather different kind of analysis of both the terminal and the preparatory aspects of all kinds and stages of education, including primary, secondary, university, research, professional, technical, vocational and so on. The point to emphasise is that education as the producer of skills is a composite and a joint commodity, having both horizontal and vertical aspects and as such requires a far more detailed analysis than it has perhaps received so far at the hands of the purely professional and consumption-oriented educators.

7. Man power planning is another important aspect of the techniques that are needed for making optimum use of the human factor. To the extent that skills are specific and have specific costs of production, it becomes important to see that economic criteria are kept in mind in undertaking the investment needed for the creation of these skills. It becomes equally important to look at the demand side for skills and arrive at projections that give a reasonable basis for the planning of supplies. It is also essential to bear in mind the continuous possibility of imbalances and the implications on the supply of skills of varying periods of production as also of depreciation and of obsolescence, and therefore plan for the flexibility and adaptability that the educational system requires in order to deal with these

implications. Man power planning is not only the planning of outputs but also that of inputs if bottlenecks are not to develop in the production of the required skills. It will be seen therefore that man power planning is now becoming an essential feature of adapting the human factor to an increasing role in economic development and it goes without saying that this requires a coordinated effort not only on the part of educators and administrators but also of economists, statisticians, and resource specialists.

8. Attention must also be drawn to the place of research and innovation among the factors broadly classified as mental that are relevant to the optimum use of the human factor in economic growth. There is sometimes a feeling that as under-developed countries can draw freely upon the supplies of research, technology and innovations that already exist in the developed countries, it is not necessary for them to have their own apparatus for research and innovation and, indeed, that it would be a mis-allocation of scarce resources for them to do so. This is a somewhat naive and certainly partial understanding of the position. First of all, research and technology accumulated in the developed countries are not freely available for transfer to the under-developed countries. Secondly, the kind of technology that has been developed in these countries or the type of research that they undertake is essentially corelated to their own complex of the state of economic development, the state of technology and scientific knowledge, the availability of equipment and other material and organisational resources, and the training and skills of their own labour force; and these conditioning factors do not usually prevail in the underdeveloped countries. Even when the innovation or technology can be transferred, it requires reorientation and readaptation that requires original research on the part of the under-developed countries. Finally, the very development of professional or scientific or technical skills requires research opportunities on the part of the instructors, if they are to acquire adequate knowledge and develop the requisite mental skills in the subjects concerned. It is therefore essential for under-developed countries wanting to make optimum use of their human factor to provide for adequate facilities for research and higher learning in their educational system. It is even more necessary that the research workers and their institutions are linked in a functional, if not an operational, way with the needs and queries of the various sectors of the economy.

9. The third set of considerations that determine the efficiency of the human factor are what may broadly be called 'psychological'. For ensuring an efficient utilisation of the human factor in the economic field, it is not sufficient to have physical fitness and requisite skills.

It is also necessary that there should be adequate motivation on the part of the human factor to maximise the use of its labour power and skills. In addition, incentives are needed for translating this motivation into actual inputs of time and skills in different fields of economic activity.

10. For ensuring adequacy of motivation for maximisation of human effort in the economic field, it is essential for the human beings concerned to have a continuing desire for a progressively higher standard of living. Ultimately the demand for income determines the supply of work, and if people are content with a low standard of living, do not believe in increasing their wants, have no material ambitions and are content with what they currently have, they are not motivated to increase the quantum or quality or intensity of the work they put in their economic activity. It is a characteristic feature of under-developed economies that the bulk of the people therein do not want more goods and services and have a state of contentment with their lot that is truly pathetic in its implications for economic development. This 'pathetic contentment' on the part of the people is traceable to a number of reasons, most of which are connected with the social and religious structure of the community, its traditional values and culture patterns, and the dominant role of nature and other factors not subject to human control in determining the volume and composition of output. If we are to get the human factor to play its due role in economic growth, this 'pathetic contentment' has got to be broken and replaced by restlessness, discontent with current economic status and condition, desire for better economic conditions and higher levels of consumption, the will to achieve this desire, and readiness to change one's way of life in order to do so. All this does not come about naturally and spontaneously, though it does gather momentum once the process of economic growth has begun and started operating in right earnest. Education, demonstration, institutional change, and creation of conditions of control over nature and the environment are all necessary for starting this process of adequate motivation on the part of the human factor to play its needed role in economic growth.

11. In the case of a country like India, the hierarchy of caste and the dominance of the doctrine of Karma had combined to create a sense of acceptance of the economic status quo that was not conducive to the release of human energies for economic betterment. That some people were better off roused neither anger nor a desire for emulation but was accepted instead as a part of the incidence

of sin and merit accumulated during previous births. Religious beliefs exalted austerity, contentment, and non-indulgence in the satisfaction of human wants and certainly their non-multiplication; and this affected not only the masses but also the classes in their attitude to economic activity. Moreover, control over self was considered superior to control over environment, and philosophic speculation rather than scientific curiosity and experimentation because the fashion and ambition of the intellectual elements in Indian society. Colonialism and subjection to foreign rule added their share to the building up of this state of 'pathetic contentment' with economic stagnation; and the helplessness and weakness that underlay this phenomenon got obscured and rationalised by the values of religion and spirituality that formed such an important part of the Indian tradition.

12. Contact with western thought, the growth of universities with their emphasis, however inadequate, on science and technology, the demonstration effect of industrialisation and economic growth abroad, the emergence of nationalist sentiments and along with it the understanding achieved by the elite of the need for activising the masses by stimulating in them discontent with their condition and environment and instilling in them a feeling that this could be altered by the achievement of political freedom, all these helped India to shake off its traditional attitude to income, wants, and economic betterment. Construction of a network of railways and other improvement in transport, public health measures and control of epidemics, major irrigation works with their dams, canals, and hydro-electric power, these helped in creating the feeling that nature was not all powerful and that it was possible to conquer the environment through intelligent and coordinated human effort. Modern education, travel, urbanisation and industrialisation even of the limited extent reached during British rule, and opportunities opening out to talent rather than merely status and social position, all these helped to break the mental and emotional hold of traditional values, religious practices and social patterns on Indian life and create a ferment that added to the forces making for change and adaptation of the human factor to a more positive role in economic growth. It must be added however that even today, fifteen years after the achievement of political freedom, the process is not complete and there are large pockets in the Indian economy where the human factor is still suffering from 'pathetic contentment' and refuses to yield to the temptation of a higher standard of living.

13. Moreover, the human factor does not come into its own in economic growth merely by the acquisition of a

desire for a higher income and a better standard of life. It is also necessary to establish the belief that increased income is the result of increased effort. To do this is not easy in an underdeveloped economy which is usually feudal in structure with concentration of land ownership and dominated by hierarchical status based largely on heredity rather than achievement. Nevertheless, it has got to be done and that too deliberately and with determination, if we want the human being to put in his economic best. Land reforms, ceilings on rentier and similar property incomes, and other institutional changes directed at establishing a close corelation between income and work are all part of the measures necessary for stimulating the will to economic effort in the human being. Indian experience has proved however that it is not enough to bring about disassociation between income and absence of work among the upper classes of the feudal and agrarian societies characteristic of the pre-industrial era. While this has a good demonstration effect on the masses - apart from the healthy effect it has on the classes - there is a danger that the masses themselves, in their new-found desire for more income and conscious of the new power they enjoy in a working democracy such as India, may expect an increase in their income to flow from outside, from the state or other classes or some other source, rather than from their own exertion and effort. An underdeveloped economy which has embarked on a full-fledged political democracy and released among its people what is called a revolution of rising expectations faces the great danger of its workers resorting to an agitational rather than a work approach to the problem of securing higher incomes. It is, therefore, essential that right from the start of the process of deliberate economic development, the connection between work and income must be built into the psychology of the people, including not only the classes but also the masses. How this is to be done is one of the many problems that constitutes the strategy of using the human factor for economic development.

14. While this problem of establishing a close functional relationship between income and work presents many difficulties in its general aspect, it is easier of treatment in specific fields. A whole new system of work incentives have been developed in recent years in industrial societies; and any underdeveloped country wanting to make full use of its human factor should draw upon the rich experience that has been accumulated both in the capitalist and communist societies, notably both in the United States and in the Soviet Union. Thus,

piece wages, production and/or profit bonuses, overtime, reward for overfulfilment and penalties for underfulfilment over agreed production or work norms, special kinds of recognition of exceptional merit, etc. are all part of the machinery that efficient economic systems have been using for tying up income with work and thus promoting the optimum utilisation of the human factor in the economic field. How far these incentives have to be confined to individuals and to what extent they can be extended to groups is again a problem awaiting greater study in the strategy of the human factor in economic growth. There is also the whole field of incentives for the stimulation of saving, of investment, of exports, of desired location of industry, of the desired priorities and patterns of economic activity, and other features pertinent to planned economic development. All this indicates the great number of studies that are required on the subject of incentives in the context of human behaviour and economic growth.

15. The fourth set of factors concerned with the maximisation of human efficiency in the economic field can be brought under the broad heading of organisation, which word I prefer to either management or administration. Organisation has been always recognised in neo-classical economics as one of the four factors of production; and it has been identified with entrepreneurship on the production side and profits on the distribution side. In the context of the problems dealt with in this paper, I use the word 'organisation' in a broader sense to cover the entire system of techniques employed and principles used for putting the square peg in the square hole and providing for its continuous movement into squarer pegs in squarer holes. Among the techniques or machinery thus needing attention for the optimum organisation of the human factor for economic growth, I would list vocational guidance, employment exchanges, resettlement and training, recruitment, promotion, personnel relations, and management. The principles that should be applied in the operation of this machinery, I would list as the giving to every worker the vocational guidance suited to his individual ability and inclination, marrying demand to supply through employment exchanges and supply to demand through suitable schemes of resettlement and training, both on a micro rather than a macro basis, determining promotion not merely on the basis of seniority and experience but also on that of merit and job suitability, providing conditions of work that are consistent with human dignity, stimulating pride in achievement rather than in domination and leading to fulfilment of personality, and finally, providing for channels of communication

and understanding between the different individuals or groups of human beings engaged in a given business establishment or unit of economic activity that will result in a consistent and coordinated performance of the task before it. Each one of these factors, both machinery and principles, needs a whole paper to itself for doing justice to its place in the human factor and economic growth. All that I wanted to do in this paper was to draw attention to some of the important elements of the organisation of the human factor for economic growth and suggest that they need study not only in a priori and theoretical terms but also in terms of the rich experience of the developed economies, both capitalist and communist, and including both the positive and the negative aspects of this experience, the success and the failures as also the commissions and omissions that they may reveal.

16. Before I proceed to conclude this paper, it is necessary to clear up a possible misunderstanding that may arise from the emphasis I have laid in the beginning on the paradox of the quantum of the labour force functioning as an asset in the developed economies while it is regarded as a handicap in the developing economies. I had therefore pleaded for the undertaking of studies on the role of the human factor in economic growth and the formulation of measures that will make the quantum of labour in the underdeveloped economies more and more of a productive asset. But this should not be taken to mean that the underdeveloped economies can afford to see an indefinite growth in the numbers of their population. Because of their very late start in the race for economic development and the very large gap that has grown and is growing in consequence between the levels of living of the developed and the developing economies, it is essential that the latter should be able to achieve much higher current rates of growth than the former. Levels of living depend not only on the size of the national dividend but also on the number of persons who are to share it; and if the numbers go on increasing in the under-developed countries at the rate at which they are now doing, the rate of current growth they will need to catch up with the developed economies will be almost impossible of achievement. In the case of the countries that took their own time to reach the status of developed economies, the death rate fell slowly so that the slow fall of the birth rate did not lead to an uneconomic increase in numbers; and the quantum of labour force did not therefore prove to be a handicap in the way of economic growth and rising average levels of living. In the case of the under-developed countries of today, however, the position is

different. In the last two decades, the death rate almost everywhere in the under-developed world has fallen rapidly thanks to the ease of application of modern methods of medicine and health; but the birth rate has not fallen simultaneously with the result that the rate of population growth has come to be between 2% and 3% a year. It is imperative that this rate of population growth should not continue. Obviously, it is not possible to do this by reversing the trend in the death rate or preventing its further fall. What is needed is a sharp reduction in the birth rate. Developing economies are aware of this need and countries like India have officially gone in for an elaborate programme of family planning aimed at reducing the birth rate. But it is not easy to bring about a drastic fall in the birth rate within a short period. Science and technology have succeeded in devising measures for reducing the death rate without the prerequisite of a high standard of life, which is all to the good. But they have not succeeded in devising measures for bringing about a similar reduction in the birth rate in the context of under-development. What is needed therefore is a deliberate effort on the part of science and technology to devise methods that would lead to a sharp fall in the birth rate and are capable of application in the under-developed world. I would, therefore, include in the role of the human factor in economic growth an important place for deliberate regulation of the growth of numbers and a drastic reduction in the birth rate. The psychological and sociological factors necessary for this purpose have of course to be studied and acted upon by the governments and peoples of the under-developed countries; but a conference such as this, which deals with the application of science and technology for promoting economic growth, should also give adequate attention to the application of science and technology for reducing the birth rate in the under-developed countries to something like half or less of their current rates and that too within a period of not more than one or two decades at the outside. I hope that the challenge which this poses to modern science and technology will be taken up by the scientists and technologists of the developed countries.

17. There is one more element concerning the role of the human factor in the under-developed countries which needs stressing. In all under-developed economies, there are large numbers of people who are not able to take advantage of even the limited facilities that are available for modernisation and increase in productivity. These classes are described in India as the weaker sections of the community. They are weak and unable to grow partly because of their sub-human economic status and also because of their social

organisation, their traditional values and ways of living, and other sociological, cultural, and psychological characteristics that are inhibitive of their taking advantage of the facilities that planning and economic development places at their disposal. We have found by experience in India, for example, that facilities for increased productivity created for the human factor by community development and National Extension Service programmes in the rural areas do not lead to all round development on the part of the rural population and that large numbers of people somehow do not take advantage of the facilities that are open to them for economic betterment. This is a subject which requires careful study and remedial action in terms both of equalisation of opportunities and of social change, if the human factor is to play its appropriate role in the promotion and acceleration of economic growth in the developing economies.

18. In conclusion, I would like to reiterate the importance of the role that the human factor can play in economic growth. Underdeveloped economies have tended to pay far more attention to the role of capital and investment in the promotion of economic growth and in fact be so obsessed by this factor that on the one hand, they set their targets low and, on the other, lean unduly on foreign aid. The result has been that progress is slow and the gap continues to widen between the developing and the developed economies. Especially countries like India, which are rich in human resources, have to adopt a far more positive and studied approach to the productive use of the human factor than they have done so far. This requires action on all human fronts, sociological, institutional, political and psychological, in addition to the strictly economic. Human energies have to be nurtured, trained, stimulated, and organised for the purpose of being effective in the economic field and promoting economic growth. And this can be done through self-knowledge and self-help. I hope, therefore, that the human factor will come into its own in the underdeveloped economies as a positive instrument for increasing both production and productivity.

19. I cannot leave this subject of the role of the human factor in economic growth without giving it a much-needed corrective. The human factor is not merely a determinant of production. The human being is also the objective of production. In our new-found enthusiasm for using the human factor for the promotion of economic growth, talking of human capital, of investment in education and calculating the economic returns thereon,

and of studying social structure, traditional values, cultural patterns and psychological aspects all from the point of view of maximising production, we must not forget that the human being is much more than a producer. It is true that man cannot live without bread but it is also true that he cannot live by bread alone. The economic man is much less than the whole man and it is the whole man who, in the last analysis, should interest all of us, including the professional economist and the administrative planner. While therefore we in the underdeveloped economies should go all out to makeadequate and deliberate use of the human factor for promoting economic growth, we must never forget that economic development is only a means to an end. We must always remember that this end will not be achieved if the process of economic growth is not subject to the wholesome discipline of human and spiritual values which have come down to us through the centuries and in all lands. After all it is these values that lend spice and flavour to the joy of living and it is the attempt at achieving these values that gives meaning and purpose to the continuity of human existence. We cannot therefore let our desire for economic growth make a machine of man, even though we should, within the limits set by human and spiritual values, strive to adapt and use the human factor for getting out of the rut of economic stagnation on to the road of economic growth and rising levels of consumption.

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